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ABSTRACT

This paper is concerned with the identification and testing of salient variables which show potential for explaining client use of evaluation information. A single-page interview instrument was devised which aggregated the factors and factor categories collected following an extensive review of the literature. Data were collected from a decisionmaker and a principal investigator associated with each of 26 evaluation efforts. These 26 sources were the subsample of an evaluation office's studies which met four criteria. Data were coded into nominal- and ordinal-type variables. The question under consideration addressed the adequacy and accuracy of the instrument's information to describe the extent of client use of evaluation information. Data were analyzed using setwise discriminant analyses. Six statistically or contextually developed sets of variables were considered. Classification results were at least 29 percent above chance levels, ranging from 69 to 85 percent depending on the set of variables entered. (Author)

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Client Use of Evaluation Findings: An Examination of Salient Variables

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Introduction

Educational evaluation as a field of study and applied professional endeavor has grown enormously in the past 20 years. Relying initially on established research designs and quantitative analyses, evaluation research has moved away from this singular line of inquiry towards an integration of descriptive and quantitative methodologies in an effort to gather the most reliable and helpful information available to decisionmakers (Cook and Reichardt, 1979). It has moved through the stage of being "an educational fad" where the evaluator, in an insulated fashion, gathered and aggregated data and then presented this information expecting outward decisionmaking response (Lange, 1974) to the realization that evaluation information is but one input in the decisionmaking process (Alkin, Kosecoff, Fitz-Gibbon & Seligman, 1974).

Three main purposes of evaluation are mentioned most often in recent literature when defining evaluation (Weiss, 1972; Davis and Salasin, 1975; Patton, 1978; Braskamp & Brown, 1980; among others): 1) to assist decisionmakers responsible for deciding policy; 2) to serve a political function; and 3) to render judgment on the worth of a program. Recent emphasis is on information for decisionmaking. Thus, there is a natural step from information to use.

This paper is concerned with the identification and testing of salient variables which show potential for explaining client use of evaluation information. The investigation responds to a number of calls within the literature. First, it addresses use throughout the evaluation process and takes into account many factors hypothetically contributing to client use of evaluation information (Nachmias, 1980). Second, the study produces empirical data which is in relatively short supply in terms of the understanding of the extent of use (Bernstein & Freeman, 1975). Third, an instrument is developed which provides direction for collecting data to understand and predict the extent of client use of evaluation information under certain contextual conditions.

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Instrument Development

To begin the instrument construction, we reviewed 43 articles and books discussing utilization of information in order to generate a list of factors hypothetically related to the extent of client use of evaluation findings. After a first-round search was completed, Alkin, Daillak and White's (1979) categorization system was used as a starting point for consolidating these possible factors affecting utilization. The eight categories of Alkin, et al. are: (1) preexisting evaluation bounds, (2) orientation of the users, (3) evaluator's approach, (4) evaluator credibility, (5) organizational factors, (6) extraorganizational factors, (7) information content and reporting, and (8) administrator style. This categorization system was borrowed because it was based on an extensive case study investigation designed to uncover factors influencing the extent of client use of evaluation information and because it provided the most comprehensive listing found during the first-round literature search.

With this beginning framework, the remaining 42 articles and books were reexamined and their factors classified under the approriate categories. However, as the literature review grew, we needed to reconceptualize the Alkin, Daillak and White scheme in order to accommodate the wide variety of factors uncovered. After four revisions, we organized the salient variables into ten categories: (1) condition of organization prior to evaluation study, (2) orientation of users toward evaluation study, (3a.) evaluation approach--client involvement in the process, (3b.) evaluation approach--evaluator's role in the evaluation, (4) organizational and external forces making demands on the evaluation, project, and conduct of both, (5) type of findings and level of acceptance of findings from various constituencies, (6) ways evaluation report was of value--how report could have been improved, (7) role report played in making decisions about the project, (8) political forces influencing utilization or nonutilization of the evaluation, (9) follow-up or follow-through 1-3 years later, and (10) extent of client use of evaluation information.

A single-page interview instrument was designed to collect data on these ten categories from decisionmakers involved in various evaluation efforts. The instrument probes for information under the ten categories and includes 47 subtopics of interest. A coding scheme was developed for each subtopic addressed.

Table 1 presents the final coding scheme for key variables included in the study.

Sample Selection

All Office of Evaluation Research (OER) technical reports contracted between 1973 and 1981 (N=70) meeting three criteria (N=26) were selected and client acceptance for inclusion into the investigation was solicited. The three criteria for selection were: (1) the evaluation was requested by an external agency; (2) it was subsequently funded by an external agency; and (3) decisionmakers from the external agency were still available to be interviewed regardless of their present position. All 26 potential cases' decisionmakers agreed to participate. The agencies involved included school districts, a medical organization, an industry foundation, and private, non-profit educational organization. Due to the quarantee of confidentiality, a listing of each evaluation case is not given.

Data Collection

A client decisionmaker and one of OER's principal investigators associated with each report were interviewed independently by a single interviewer. The interviewer was not involved in any of the original 26 evaluations, and was unknown to the client-decisionmakers. The instrument was used as a guide for conducting the interviews; it was kept open enough to probe issues as they arose. The OER principal investigator was asked to respond to the same items in the instrument from his/her perceptions of the organization's total milieu. These paired interviews (decisionmaker/principal investigator) constitute the raw data for the investigation and serve as a validity check of the responses.

Data Coding

Once the two interviews for each observation were completed, a quantified assessment for that pair of interviews was prepared. This assessment was the result of the following process:

(1) the interviewer and OER personnel separately applied the coding

scheme to each evaluation effort.

(2) The two codings for each study were compared.

(3) Differences in codings were discussed and then, jointly, the two codings were aggregated to form a single assessment for each evaluation effort.

(4) The number and degree of differences between the two original codings were recorded for future reference.

This coding procedure uncovered one major problem area: the principal investigator's perspective during the interview needed to be resolved. The principal investigator could either reflect his/her perception of the way the decisionmaker may be viewing things or could respond from his/her own perspective as the evaluator. After discussion among OER staff, it was resolved that the principal investigator should respond from his/her perception of the decisionmaker's point of view. Following the initial comparison of the paired codings, if the ratings appeared markedly different, the principal investigator was reinterviewed to substantiate his/her reasoning, and jointly, a decision as to the "actual" situation was agreed upon. (In some instances, the principal investigator changed his/her ratings based on information received from the decisionmaker's interview. In other instances, the interviewer refined her ratings based on additional principal investigator input.)

Upon completion of this process across cases, 196 of the 1716 codings (11.42%) showed a difference in degree, but not of direction. (See Table 2 for a listing of key variables and descriptive statistics). For example consider a difference in degree on V46 - Recommendations and Alternatives - coded 1 = unsatisfactory, 2 = satisfactory, and 3 = excellent. V45 may have been coded "3" by the interviewer based upon the decisionmaker's assessment, while the principal investigator coded "2" based on his/her perception of the decisionmaker's point of view. The final coding of this type of discrepancy was left to the interviewer's discretion. In no instance was a directional discrepancy left unresolved.

The resulting quantified data were used to probe three questions:

1. On a post hoc basis, does the instrument capture salient variables which adequately and accurately describe the extent of client use of evaluation information?
2. Using only the contextual variables within the instrument, i.e.,

all variables excluding resultant utilization variables, can extent of client use of evaluation information be accurately predicted and, if so, by which variables?

3. How do the results of this study compare with the results of other utilization efforts?

This paper reports the data analysis and findings responding to question 1. Question 2 and 3 analyses will be reported in future papers.

Data Analysis

In order to examine the question under consideration, discriminant analysis procedures were used to select salient descriptors of the extent of client use of evaluation information from among the available variables and to provide via the classification results, a picture of how accurately the selected variables describe the dependent measure.

The variables included in this study were grouped to provide analyses of the data from two perspectives: (1) using the contextual variables to predict the extent of client use of evaluation information, and (2) combining the contextual variables with the utilization variables to examine the extent of client use. The prediction analyses consider only Variables 1 through 51 (see Table 2), which exclude the resultant utilization measures, to provide an a priori look at the evaluation setting in order to uncover relationships with extent of client use. (This responds to question 2.) The analyses using the contextual and utilization variables consider all of the instrument's data in order to test the completeness of the instrument with respect to explaining the extent of client use a posteriori; that is, knowing the evaluation setting and the type of use that has occurred. (This responds to question 1.) The dependent variable for all applicable analyses was V70-Extent of Utilization: Program Change/Effect.

Descriptive Statistics

From the frequency distribution for V70 (see Table 3), we find that 80.8% of the cases had at least some use occurring while 34.6% of the cases reflect

major client use of evaluation results. We next examined variables representing within-sample constancy by group and found that a "positive purpose for the evaluation study" and "findings relevant to the questions asked" typify the constant ratings for the evaluation studies reflecting major client use. Conversely, limited client participation, a non-facilitative evaluator role, and a lack of either neutral or positive "surprise" findings characterize the constant ratings for evaluation studies that were not used.

Due to the small number of observations available (26) relative to the number of variables to be considered (66), two statistical methods of variable reduction were employed: checking Spearman correlations and examining the eigenstructures from principal component analyses of various correlation matrices. In addition, a third subset of the instrument's variables derived from hypotheses of the principal investigators and decisionmakers was considered.

From the Spearman correlations, the number of variables was reduced to 23. These 23 variables are included in Tables 1 and 2. From the eigenstructure examination, the number of variables was further reduced to eight variables for the a posteriori set (a complete description of this analysis procedure is given in Duggan, 1983).

The a posteriori set of variables after both reduction phases include:

1. V20 Client Participation in Instrumentation
2. V30 Stability of Program Staff and Other Personnel
3. V38 Compatibility with Values/Level of Acceptance
4. V41 Neutral Surprises (unanticipated Outcomes)
5. V53 Client Program Development Team Used Report for Decisionmaking
6. V56 Immediate Changes Resulted in Program
7. V66 1-3 Years Later Changes Resulted in Organizational Structure
8. V67 1-3 Years Later Changes Resulted in Organizational Social Relationships

Differences were apparent from the set of variables derived from hypotheses of the principal investigators and decisionmakers. In the a posteriori set, three variables are from the contextual, predictive group of variables and five from the resultant utilization group. These are:

1. V24 Flexibility of Design (Changeable to Accommodate Reality)
2. V25 Role of Evaluator: Facilitator
3. V51 Findings Have Relevance

4. V53 Client Program Development Team Used Report for Decisionmaking
5. V56 Immediate Changes Resulted inProgram
6. V57 Immediate Changes Resulted in Organization
7. V65 1-3 Years Later Changes Resulted in Program
8. V69 Extent of Utilization: Dissemination.

Analyses of V70 (Extent of Use) Using the Contextual and Utilization Variables

Setwise Regression Analyses. Table 4 examines how well the correlates, eigenstructure-reduced subset of correlates, and the interview derived set of variables, respectively, predict V70. All variable groups produce significant results at least at the .05 probability level. The minimum adjusted R^2 among the five clusters of variables is 0.481. These analyses indicate that enough variance of the dependent variable has been explained to warrant further probings and investigations.

Discriminant Analyses. Discriminant analyses were run on the five clusters of variables: .01 correlates, .05 correlates, the two eigenstructure-reduced subsets of the correlates, and the interview derived sets of variables in order to identify the salient descriptors of V70. The assumptions underlying discriminant analysis, i.e., that groups are random samples from multivariate normal populations with equal dispersion matrices, are only partially met. Hence, caution must be stressed in the interpretation of results.

For the five analyses run, 16 observations were used in generating the various discriminant functions. These functions were then tested on either 20, 24, 25 or 26 cases depending on the variables used in the functions. The classification results, therefore, reflect less sample bias than is ordinarily shown.

Tables 5, 6 and 7 summarize the results. Identical functions were generated from the two eigenstructure-reduced variable sets. The interview derived set of variables most accurately discriminates Group 3 from Groups 1 and 2; the eigenstructure-reduced set discriminates best overall. Classification results correctly place between 69 and 85% of the cases, well above the proportional chance criterion. Only V56--Immediate Changes Resulted in Program--was used in all four functions.

From these analyses, it would appear that the interview instrument, on an a posteriori basis, captures many important factors which reflect the extent of client use of evaluation results.

The .01 correlates used to form the discriminant functions are:

V51 - Findings Have Relevance

--From the category entitled Role Report Played in Making Decisions about the Project

V56 - Immediate Changes Resulting: Program

--From the category entitled Follow-up or Follow-through 1-3 Years Later

V65 - Program.

The .05 correlates extend this set to include:

V24 - Flexibility of Design (changeable to accommodate reality)

V40 - Positive Surprises (unanticipated outcomes)

V43 - Dissemination: Internal

V50 - Dissemination: External

--From the category entitled Role Report Played in Making Decisions About the Project

V53 - Report User: Program Development Team

V54 - Report User: Program Users

V57 - Immediate Effects Resulting: Organization

--From the category entitled Follow-up or Follow-through 1-3 Years Later

V67 - Social Relationships

--From the Extent of Utilization category

V69 - Dissemination.

The interview derived variables used to form the discriminant functions are V24, V56, V57 and V65 while the eigenstructure-reduced run used only V38 and V56.

Summary and Conclusions

From the descriptive statistics it was seen that 80.8 percent of the evaluations under consideration reported at least some client use of information

while 34.6 percent of the total number of cases reflected major use of information. Those organizations which indicated major use were characterized by an open quest for information (rather than for predetermined unrealistic results) and a belief that findings were relevant to the questions asked. Nonuse of evaluation information consistently reflected limited client participation, a non-facilitative evaluator role, and a lack of either neutral or positive "surprise" findings (unanticipated outcomes) relative to the organization. Cost effectiveness analysis had been incorporated into only one of the 26 evaluations thus this potentially important variable could not be examined.

On these bases a number of differentiating variables with respect to extent of use were uncovered. These variables indicate that in order to enhance the extent of use, an evaluator should assume an educative approach to the client group throughout the evaluation process. In effect, the evaluator helps the client group probe the issues, clarify the questions, articulate the evaluation design, and agree on responsibilities for carrying out the evaluation.

From the a posteriori analyses, six contextual variables and seven utilization variables were entered into the various setwise discriminant analysis runs. Results correctly classified between 69 and 85 percent of the cases. From these results, we conclude that the interview instrument, on an a posteriori basis, captures a number of important factors which reflect the extent of client use of evaluation information.

Table 1

Coding Scheme for Key Variables

Variable Number	Variable Name	Coding Scheme Number (See key below)
V11	Purpose of the evaluation study	A
V20	Extent of client participation: Instrumentation	B
V24	Flexibility of design	C
V25	Role of evaluator: Facilitator	C
V30	Stability of program staff and other personnel	A
V38	Compatibility with values/level of acceptance	C
V40	Positive surprises	C
V41	Neutral surprises	C
V43	Dissemination: Internal	B
V44	Type of report	D
V46	Recommendations and alternatives	E
V49	Staff input in final report	B
V50	Dissemination: External	B
V51	Findings have relevance	B
V53	Role report played in making decisions: program development team	B
V54	Role report played in making decisions: program users	B
V56	Immediate changes resulting: program	B
V57	Immediate effects resulting: organization	B
V58	Immediate effects resulting: social relations	B
V65	Follow-up or follow-through 1-3 years later: program	B
V66	Follow-up or follow-through 1-3 years later: organizational structure	B
V67	Follow-up or follow-through 1-3 years later: social relations	B
V69	Dissemination	B

Table 1 (continued)

Key to Coding Schema:

Coding Scheme A: 1 = problem (negative), 2 = no problem, 3 = positive
Coding Scheme B: 3 = extensive, 2 = minimal, 1 = none
Coding Scheme C: 2 = Yes, 1 = No
Coding Scheme D: 1 = formal, 2 = informal, 3 = both
Coding Scheme E: 1 = unsatisfactory, 2 = satisfactory, 3 = excellent,
4 = not included in report/evaluation

Table 2
Variable Listing and Descriptive Statistics

Variable	N	Mean
V11	26	2.731
V20	26	2.231
V24	26	1.385
V25	26	1.538
V30	26	2.192
V38	26	1.846
V40	26	1.308
V41	26	1.154
V43	26	2.615
V44	26	2.462
V46	20	2.600
V49	26	1.808
V50	26	2.077
V51	26	2.731
V53	23	2.261
V54	23	1.957
V56	26	2.077
V57	26	1.440
V58	26	2.231
V65	25	2.200
V66	25	1.480
V67	25	1.680
V69	26	2.308

Table 3

Frequency Distribution of V70 - Extent of Use:
Program Change/Effect

Category	Freq.	Adjusted Freq. (Pct)	Cum. Freq. (Pct)
None	5	19.2	19.2
Some	12	46.2	65.4
Major	9	34.6	100.0
Total	26	100.0	

Mean	2.154
Median	2.167
Mode	2.000

Table 4. Summary of the A Posteriori Analyses

	Variable Set				
	.01 correlates	.05 correlates	eigenvalue > .70 criterion	80% variance criterion	interview derived
Adjusted R^2	0.567 $p < .01$	0.622 $p < .05$	0.510 $p < .01$	0.481 $p < .05$	0.556 $p < .05$
N of cases used in generating discriminant functions	16	16	16	16	16
Variables used in the discriminant functions	V51, V56, V65	V56, V51, V65, V24, V43, V50, V57, V53, V54, V69, V40, V67	V56, V38	V56, V38	V56, V57, V65, V24
N of cases in the classification results	25	20	26	26	24
Classification results	72%	85%	69%	69%	75%
Proportional chance criterion	.406	.406	.406	.406	.406
Analysis results		best percent correctly classified	best overall in terms of significance levels between groups		

Table 5

Discriminant Analysis Results Based on the Spearman Correlation Variables (A Posteriori Variable Set)

.01 Correlates

Dependent Variable: V70
Independent Variables Entered: V25, V51, V53, V56, V57, V65, V69

Variables Used in Functions: V51, V56, V65

Standardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V51	0.32	-0.84
V56	0.78	0.10
V65	0.39	0.92

Unstandardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V51	0.85	-2.20
V56	1.88	0.25
V65	0.63	1.50
(constant)	-8.10	1.88

F Statistics and Significances Between Pairs of Groups
Each F Statistic Has 3 and 11 Degrees of Freedom

	Group 1	Group 2
Group 2	1.995 0.173	
Group 3	6.563 0.006	4.941 0.021

Classification Results

Actual Group	No. of Cases	Predicted Group Membership 1	2	3
Group 1	5	4 80.0%	1 20.0%	0 0.0%
Group 2	11	2 18.2%	7 63.6%	2 18.2%
Group 3	9	0 0.0%	2 22.2%	7 77.6%

Percent of "Grouped" Cases Correctly Classified: 72.00%

Table 5 (continued)

.05 Correlates

Dependent Variable: V70
Independent Variables Entered: V25, V51, V53, V54, V56, V57, V65, V69, V24, V40, V43, V49, V50, V67
Variables Used in Functions: V56, V51, V65, V24, V43, V50, V57, V53, V54, V69, V40, V67

Standardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V51	-15.92	-2.32
V53	16.63	4.60
V54	13.83	4.89
V56	0.85	2.18
V57	-16.46	-3.07
V65	25.15	2.95
V69	10.63	4.54
V24	20.88	-1.67
V40	-1.34	1.08
V43	13.65	-2.84
V50	-26.80	-2.34
V67	-1.37	-3.89

Unstandardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V51	-41.90	-6.11
V53	21.59	5.98
V54	17.23	6.09
V56	2.06	5.29
V57	-20.56	-3.84
V65	41.24	4.84
V69	14.27	6.10
V24	42.04	-3.36
V40	-2.87	2.32
V43	31.13	-6.48
V50	-29.53	-2.58
V67	-1.62	-4.59
(constant)	-157.15	-9.89

F Statistics and Significances Between Pairs of Groups
Each F Statistic Has 12 and 2 Degrees of Freedom

	Group 1	Group 2
Group 2	4.829 0.184	
Group 3	19.708 0.049	78.661 0.013

Table 5 (continued)

Classification Results

Actual Group	No. of Cases	Predicted Group Membership 1	2	3
Group 1	4	2 50.0%	2 50.0%	0 0.0%
Group 2	10	0 0.0%	9 90.0%	1 10.0%
Group 3	6	0 0.0%	0 0.0%	6 100.0%

Percent of "Grouped" Cases Correctly Classified: 85.00%

Table 6

Discriminant Analysis Results Based on the Eigenstructure-Reduced Variable Set
(A Posteriori Variable Set)

.70 Eigenvalue Criterion

Dependent Variable: V70
Independent Variables Entered: V53, V56, V20, V38, V41, V66, V30
Variables Used in Functions: V56, V38

Standardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	0.96	-0.35
V38	0.55	0.86

Unstandardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	2.33	-0.85
V38	1.69	2.65
(constant)	-8.57	-3.00

F Statistics and Significances Between Pairs of Groups
Each F Statistic Has 2 and 12 Degrees of Freedom

	Group 1	Group 2
Group 2	3.393 0.068	
Group 3	10.867 0.002	5.618 0.019

Classification Results

Actual Group	No. of Cases	Predicted Group Membership 1	2	3
Group 1	5	5	0	0
		100.0%	0.0%	0.0%
Group 2	12	4	6	2
		33.3%	50.0%	16.7%
Group 3	9	0	2	7
		0.0%	22.2%	77.8%

Percent of "Grouped" Cases Correctly Classified: 69.23%

Table 6 (continued)

80% Variance Explained Criterion

Dependent Variable: V70
Independent Variables Entered: V53, V56, V20, V38, V41, V66, V30, V67
Variables Used in Functions: V56, V38

Standardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	0.96	-0.35
V38	0.55	0.86

Unstandardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	2.33	-0.85
V38	1.69	2.65
(constant)	-8.57	-3.00

F Statistics and Significances Between Pairs of Groups
Each F Statistic Has 2 and 12 Degrees of Freedom

	Group 1	Group 2
Group 2	3.393 0.068	
Group 3	10.867 0.002	5.618 0.019

Classification Results

Actual Group	No. of Cases	Predicted Group Membership 1	2	3
Group 1	5	5 100.0%	0 0.0%	0 0.0%
Group 2	12	4 33.3%	6 50.0%	2 16.7%
Group 3	9	0 0.0%	2 22.2%	7 77.8%

Percent of "Grouped" Cases Correctly Classified: 69.23%

Table 7

Discriminant Analysis Results Based on the Interview Derived Set of Variables
(A Posteriori Variable Set)

Dependent Variable: V70
Independent Variables Entered: V25, V51, V53, V56, V57, V65, V69, V24
Variables Used in Functions: V56, V57, V65, V24

Standardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	1.24	-0.61
V57	-0.99	0.01
V65	0.81	0.61
V24	0.87	0.67

Unstandardized Canonical Discriminant Function Coefficients

	Func 1	Func 2
V56	3.01	-1.49
V57	-1.23	0.01
V65	1.33	1.00
V24	1.76	1.34
(constant)	-11.02	-0.97

F Statistics and Significances Between Pairs of Groups
Each F Statistic Has 4 and 10 Degrees of Freedom

	Group 1	Group 2
Group 2	0.935 0.482	
Group 3	6.476 0.008	7.416 0.005

Classification Results

Actual Group	No. of Cases	Predicted Group Membership 1	2	3
Group 1	4	3 75.0%	1 25.0%	0 0.0%
Group 2	11	2 18.2%	8 72.7%	1 9.1%
Group 3	9	1 11.1%	1 11.1%	7 77.8%

Percent of "Grouped" Cases Correctly Classified: 75.00%

References

Alkin, Marvin C., Daillak, Richard, & White, Peter. Using evaluations: Does evaluation make a difference? Beverly Hills, CA: SAGE Publications, 1979.

Alkin, Marvin, C., Kosecoff, Jacqueline, Fitz-Gibbon, Carol, & Seligman, Richard. Evaluation and decision making: The Title VII experience. Los Angeles: Center for the Study of Evaluation, UCLA, 1974.

Bernstein, Ilene, & Freeman, Howard. Academic and entrepreneurial research: Consequences of diversity in federal evaluation studies. New York: Russell Sage, 1975.

Braskamp, Larry A., & Brown, Robert D. (Eds.). Utilization of evaluative information. San Francisco: Jossey-Bass, Inc., 1980.

Cook, Thomas, D., & Reichardt, Charles S. (Eds.). Qualitative and quantitative methods in evaluation research. Beverly Hills, CA: SAGE Publications, 1979.

Davis, Howard R., & Salasin, Susan E. The utilization of evaluation. In E.L. Struening, & M. Guttentag (Eds.), Handbook of evaluation research, Vol. 1. Beverly Hills, CA: SAGE Publications, 1975, 621-666.

Duggan, J.G. An investigation of client use of evaluation information. Unpublished doctoral dissertation, University of Illinois at Chicago, 1983.

Lange, Robert R. A search for utility in new evaluation thought. Theory Into Practice, 1974, 13, 22-30.

Nachmias, David. Public policy evaluation: An overview. Introduction in D. Nachmias (Ed.), The practice of policy evaluation. New York: St. Martin's Press, 1980, 1-21.

Patton, Michael Q. Utilization-focused evaluation. Beverly Hills, CA: SAGE Publications, 1978.

Weiss, Carol H. Utilization of evaluation: Toward comparative study. In C.H. Weiss (Ed.), Evaluating action programs: Readings in social action and education. Boston: Allyn and Bacon, Inc., 1972, 318-326.